

What is claimed is:

1. A solution casting method for producing a polymer film from a dope solution containing a polymer and a solvent, 5 comprising steps of:

casting said dope solution from a casting die on a substrate to form a gel-like film;

10 drawing said gel-like film in a tangential direction of said substrate to peel said gel-like film from said substrate at a peeling speed of at least 10 m/min;

regulating to less than 20 mm a movement range in which a peeling position of said gel-like film moves on said substrate; and

15 drying said peeled gel-like film so as to obtain said polymer film.

2. A solution casting method as claimed in claim 1, wherein the moving direction of said peeling position changes at least four times in one second along a transporting direction of said 20 substrate.

3. A solution casting method as claimed in claim 1, wherein a peeling roller is used for peeling said gel-like film.

25 4. A solution casting method as claimed in claim 3, wherein a length of an internal common tangent of said peeling roller and said substrate is in the range of 0.1 mm to 100 mm.

30 5. A solution casting method as claimed in claim 3, wherein a temperature of said substrate is adjusted in the range of 10 °C to 40 °C .

6. A solution casting method as claimed in claim 5, wherein said peeling speed is at most 150 m/min.

5 7. A solution casting method as claimed in claim 6, wherein a transporting time for transporting said gel-like film on said substrate is in the range of 0.5 min to 10 min.

10 8. A solution casting method as claimed in claim 7, wherein a temperature of said gel-like film at peeling is in the range of 10 °C to 50 °C.

15 9. A solution casting method as claimed in claim 3, wherein when a peeling force for peeling said gel-like film is at the maximum, a weight percentage of a remaining solvent in said gel-like film to a weight of said polymer film is determined as a criterion, and while said gel-like film is peeled, said weight percentage of said remaining solvent is in the range of:

20 5 wt.% to (said criterion measure - 5 wt.%), or
(said criterion measure + 5 wt.%) to 50 wt.%.

25 10. A solution casting method as claimed in claim 9, wherein when a thickness of said polymer film is at most 60 µm, a weight percentage of said remaining solvent at peeling said gel-like film is in the range of 5 wt.% to (criterion - 5 wt.%).

30 11. A solution casting method as claimed in claim 9, wherein when a thickness of said polymer film is more than 60 µm, a weight percentage of said remaining solvent at peeling said gel-like film is in the range of (said criterion measure + 5 wt.%) to 50 wt.%.

12. A solution casting method as claimed in claim 11, wherein when a thickness of said polymer film is more than 60 μm , said criterion is 30 wt.%, and a weight percentage of said remaining 5 solvent at peeling said gel-like film is in the range of 35 wt.% to 45 wt.%.

13. A solution casting method as claimed in claim 9, wherein a peeling roller used for peeling said gel-like film is disposed 10 downstream from said substrate, and a distance from said peeling position and said peeling roller is in the range of 0.1 mm to 100 mm.

14. A solution casting method as claimed in claim 9, wherein 15 a release agent is added to said dope solution.

15. A solution casting method as claimed in claim 3, wherein said solvent is a mixture solvent containing dichloromethane and alcohol, and a weight ratio of said alcohol is more than 20 8 wt.%.

16. A solution casting method as claimed in claim 15, wherein at least one of methanol, ethanol, n-butanol is used as said alcohol.

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17. A solution casting method as claimed in claim 15, wherein materials which are acids or materials showing characters or properties of acid in said dope solution.

30 18. A solution casting method as claimed in claim 3, wherein cellulose acylate is used as said polymer.

19. A solution casting method as claimed in claim 18, wherein
said polymer film is used for a polarizing filter.

5 20. A solution casting method as claimed in claim 18, wherein
said polymer film is used as a protective film for said
polarizing filter.

10 21. A solution casting method as claimed in claim 18, wherein
said polymer film is used in a liquid crystal display.